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EXAMINER	
MERED, HABTE	

ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/682,504	HANEDA, JUN	
	Examiner	Art Unit	
	Habte Mered	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-15 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-15 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 10 September 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 11/08/2001.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-15 are examined.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-5** are rejected under 35 U.S.C. 102(e) as being anticipated by Zager et al (US 6, 393, 386), hereinafter referred to as Zager.

Zager discloses the operation and management of computer networks with a data-gathering infrastructure to discover nodes in the form of devices in a network.

4. Regarding **claim 1**, Zager discloses a node detecting method for detecting a node that operates as a device in a computer network **(Column 6, Lines 12-20)**, comprising: a first transmitting step of transmitting a first detection signal to a node **(Column 24, Lines 64-67 and Column 26, Lines 20-26)**; a first receiving step of receiving, from the node that received the first detection signal, address information of the node **(Column 25, Lines 1-10)**; a first storing step of storing in a first memory the address information of the node received in the first receiving step**(Column 25, Lines 1-10)**; a second transmitting step of transmitting a second detection signal to the node by using the address information of the node stored in the first memory **(Column 26, Lines 26-28)**; a second receiving step of receiving, from the node that received the second

detection signal, classification information of the node in response to the second detection signal**(Column 26, Lines 28-30)**; a judging step of judging a classification of the node based on the classification information of the node received the second receiving step **(This is inherent to Zager's system as it has to analyze and judge the type of devices indicated by the Analyzer in Figure 11 and Column 18, Lines 18-45. Further, Zager classifies nodes as for instance SNMP node. See Column 26, Line 39. However, the additional classifications cited by the Applicant (i.e. MAC and IP nodes) are not stated in Zager's system because based on the procedures conducted by Zager that are identical to the Applicant, to one skilled in the art, the properties of these nodes are clear. In Zager's system in response to the initial ICMP broadcast ping any device in the subnet can respond but that does not mean the device has responded with the correct address. Hence according to Zager a second ping with the received address will clearly determine the address sent is correct. If the device responds the second time then it is a device with a correct IP address and hence an IP node and if it does not respond at all then it means it is some sort of device with a MAC address and hence a MAC node. It is clear that both the Applicant and Zager are weeding out devices without an IP address.)**; and a second step of storing the classification information of the node in a second memory to correspond to the classification of the node **(Since the Applicant has not shown the advantage of storing the data in different memory, this limitation is irrelevant to the invention and it is inherent for Zager's system to store in some form of memory.)**

5. Regarding **claim 2**, Zager discloses a node detecting method, wherein the first transmitting step includes transmitting an ICMP echo message as the first detection signal to a plurality of nodes by using a broadcast address of a predetermined subnet **(Column 24, Lines 64-67 and Column 26, Lines 20-26)**, the first receiving step includes receiving, from at least one of the plurality of nodes that responds to the ICMP echo message, an IP address thereof as the address information, and the first storing step includes storing IP address of at least one node **(Column 25, 1-10)**.

6. Regarding **claim 3**, Zager discloses a node detecting method, wherein the second transmitting step includes transmitting an ICMP echo message as the second detection signal to the node based upon the address information stored in the first memory **(Column 26, Lines 26-28)**, the second receiving step includes receiving, from the node that responds to the ICMP echo message, an IP address of the node as the classification information **(Inherent to any IP subnet using TCP/IP to respond to an ICMP echo request message with a corresponding ICMP echo reply message that has its own IP address and very obvious to one skilled in the art to label a node with an IP address as an IP node)**, the judging step includes judging that the node that sent the IP address is an IP node, and the second storing step includes storing node as the IP node to correspond to the IP address **(If a node is stored with an IP address it has to be some form of an IP node and redundant to say so. Zager's system of course stores IP addresses of nodes.).**

7. Regarding **Claim 4**, Zager discloses a node detecting method, wherein the second transmitting step includes transmitting an ICMP echo message as the second

detection signal to the node stored in the first memory **(Column 26, Lines 26-28)**, the first receiving step includes receiving from the node a MAC address of the node **(The device being pinged returns in the ICMP echo reply message both the IP and MAC addresses and if it does not have an IP address then just the MAC address)**, the judging step includes judging that the node that received the ICMP echo message is a MAC node when there is no response from the node that received the ICMP echo message **(if the correct IP address is not included the device will not respond to the second ICMP ping indicating it does not have an IP address and is just a node with a MAC address which is also Zager's reason to do the second ping.)**, and the second storing step includes storing the node as the MAC node to correspond to the MAC address. **(If the node stored has only MAC address then it has to be a MAC node)**

8. Regarding **claim 5**, Zager discloses a node detecting method, wherein the second transmitting step further includes transmitting a detection signal according to an SNMP protocol to the node based upon the address information stored in the first memory **(Column 26, Lines 28-30)**, the second receiving step includes receiving, from the node that received the detection signal according to the SNMP protocol, SNMP information of the node, the judging step includes judging that that node that sent the SNMP information is an SNMP node **(Column 26, Line 39-40)**, and the second storing step includes storing the node as the SNMP node to correspond to the SNMP information. **(Column 26, Lines 52-55)**

9. **Claims 14 and 15** are rejected under 35 U.S.C. 102(e) as being anticipated by Liu et al (US 6, 574, 664), hereinafter referred to as Liu.

Liu discloses a method and apparatus for IP and MAC address discovery at the Process Layer.

Liu discloses a node detecting apparatus **(See Figure 5)** and program for detecting a node that operates as a device in a computer network, comprising: a transmitting unit operable to transmit a first detection signal to the node **(Figure 5, element 164)**; a receiving unit operable to receive, from the node that received the first detection signal **(Column 6, Lines 11-15)**, address information of the node **(Figure 5, element 164)**; a first memory operable to store the address information of the node received by the receiving unit **(Figure 5, element 168)**; a judging unit operable to transmit a second detection signal to the node based on the address information of the node stored in the first memory **(Figure 5, element 174)**, and to judge, in a case where classification information of the node is received from the node in response to the second detection signal **(Column 6, Lines 18-20)**, a classification of the node based on the classification information of the node **(Classification is inherent in that if a node is stored with an IP address it is an IP node and if a node has only its MAC address stored then it is obvious it is A MAC node without an IP address)** ; and a second memory operable to store the classification information of the node to correspond to the classification of the node **(Which section of the memory the information is stored is irrelevant to the invention and the Applicant for storing**

different information in different section of the memory has showed no added value.).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. **Claim 6-8 and 10-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Zager et al (US 6, 393, 386), hereinafter referred to as Zager in view of Kracht (US 6, 377, 987).

12. Regarding **claim 6**, Zager teaches all aspects of the claimed invention as set forth in the rejection of claim 5 but fails to teach a node detecting method wherein the judging step includes judging based on the SNMP information whether or not the node is an interconnecting device, and the second storing step includes storing the node as an interconnecting node to correspond to the SNMP information, when the node is judged to be the interconnecting device in the judging.

Kracht discloses a mechanism for determining an actual physical topology of network devices in a network.

Kracht discloses a node detecting method wherein the judging step includes judging based on the SNMP information whether or not the node is an interconnecting device, and the second storing step includes storing the node as an interconnecting node to correspond to the SNMP information, when the node is judged to be the interconnecting device in the judging. **(Column 7, Lines 50-55 and Column 10, Lines 25-55. Which section of the memory the**

information is stored is irrelevant to the invention and no added value has been shown by the Applicant for storing different information in different section of the memory.)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Zager's method to incorporate identifying interconnecting devices using SNMP protocol. The motivation being that Zager mentions in Column 26, Line 36 that the SNMP query to the SNMP device returns the system name and Kracht further clarifies the system name to mean the device name, device type and model number in Column 7, Line 55.

13. Regarding **claim 7**, Zager teaches all aspects of the claimed invention as set forth in the rejection of claim 6 but fails to teach a node detecting method, further comprising: a third receiving step of receiving, from the interconnecting node, port identifying information for identifying a port of the interconnecting node and node identifying information of a node connected to the port; and a third storing step of storing the node identifying information of the node connected to the port in the second memory to correspond to the port identifying information of the port to which the node is connected.

Kracht discloses a node detecting method, further comprising: a third receiving step of receiving, from the interconnecting node, port identifying information for identifying a port of the interconnecting node and node identifying information of a node connected to the port; and a third storing step of storing the node identifying information of the node connected to the port in the second memory to correspond to the port identifying information of the port to which the node is connected. **(Column 10, Lines 25-55. Which section of the memory the information is stored is irrelevant to the**

invention and no added value has been shown by the Applicant for storing different information in different section of the memory.)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Zager's method to incorporate identifying interconnecting device ports and nodes off of the ports using SNMP protocol. The motivation being that Zager mentions in Column 26, Line 38-45 that the SNMP query to the SNMP device forces traversing the entire address table of the node and Kracht further clarifies how the address table is traversed in Column 10, Lines 25-55.

14. Regarding **claim 8**, Zager teaches all aspects of the claimed invention as set forth in the rejection of claim 7 but fails to teach a node detecting method, wherein in a case where the interconnecting node has a stack connection, the third receiving step includes receiving, from the interconnecting node, stack identifying information for identifying a stack of the interconnecting node and the node identifying information of the node connected to the stack, and the third storing step includes storing the node identifying information of the node connected to the stack in the second memory to correspond to the stack identifying information received in the third receiving step.

Kracht discloses a node detecting method, wherein in a case where the interconnecting node has a stack connection, the third receiving step includes receiving, from the interconnecting node, stack identifying information for identifying a stack of the interconnecting node and the node identifying information of the node connected to the stack, and the third storing step includes storing the node identifying information of the node connected to the stack in the second memory to correspond to the stack

identifying information received in the third receiving step. **(Column 14, Lines 18-35; Which section of the memory the information is stored is irrelevant to the invention and no added value has been shown by the Applicant for storing different information in different section of the memory.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Zager's method to incorporate identifying stack of the interconnecting device using SNMP protocol. The motivation being that Zager mentions in Column 26, Line 52 that SNMP device are queried for interfaces and stack and Kracht further clarifies how the stackable devices are identified using SNMP protocol in Column 14, Lines 30-35.

15. Regarding **claim 10**, Zager discloses a node detecting method, further comprising: a third receiving step of receiving address information of a node connected to the interconnecting node from the interconnecting node **(Column 26, Lines 39-45)**; a third storing step of storing in the first memory the address information of the node received in the third receiving step **(The retrieved address information has to be stored in memory. No added value shown by Applicant storing different stuff in different section of the memory.)**; and repeating the second transmitting step, the second receiving step, the judging step, the second storing step, the third receiving step and the third storing step for the node connected to the interconnecting node **(The device can trust the information retrieved from the interconnecting device in this case the router or ping it again to re-verify the address. Already Zager has**

shown in Column 26, Lines 28-30 that addresses need to be verified by pinging each retrieved address).

16. Regarding **claim 11**, Zager discloses a node detecting method wherein, in the third storing step, node-identifying information of the node connected to the interconnecting node is stored in the second memory to correspond to the interconnecting node. **(Which section of the memory the information is stored is irrelevant to the invention and the Applicant for storing different information in different section of the memory has showed no added value. Each SNMP query is stored in memory as illustrated in Column 26, Line 53.)**

17. Regarding **claim 12**, Zager teaches all aspects of the claimed invention as set forth in the rejection of claim 11 but fails to teach a node detecting method, further comprising: determining a weight of a node being detected in advance depending on the classification of the node being detected, comparing a first weight of the node being detected having the classification based upon the classification information received in the second receiving step and a second weight of the node being detected having a previous classification stored in the second memory, merging node identifying information of the node having less weight based upon the comparing into node identifying information of the node having more weight, and storing the merged node identifying information in the second memory to correspond to the classification of the node having more weight.

Kracht discloses a node detecting method, further comprising: determining a weight of a node being detected in advance depending on the classification of the node

being detected, comparing a first weight of the node being detected having the classification based upon the classification information received in the second receiving step and a second weight of the node being detected having a previous classification stored in the second memory, merging node identifying information of the node having less weight based upon the comparing into node identifying information of the node having more weight, and storing the merged node identifying information in the second memory to correspond to the classification of the node having more weight. **(Based on the definition given by the Applicant in Paragraph 17, weight value is dependent on the type of node and the MAC node has the least weight and the SNMP node has the most weight. Kracht in Table 1 teaches a similar weight comparison. See also Column 8, Lines 20-49.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Zager's method to incorporate a method for weighting nodes. The motivation being that Kracht mentions in Column 8, Line 37 that in certain circumstances devices may be capable of multiple service like a router providing both layer 2 and 3 services and ending up being a switch and assigning weights to the nodes will make them more descriptive.

18. Regarding **claim 13**, Zager teaches all aspects of the claimed invention as set forth in the rejection of claim 12 but fails to teach a node detecting method, wherein the weight is determined in such a manner that the weight corresponding to each of the MAC node, the IP node, the SNMP node and the interconnecting node increases in that order.

Kracht discloses a node detecting method, wherein the weight is determined in such a manner that the weight corresponding to each of the MAC node, the IP node, the SNMP node and the interconnecting node increases in that order. **(Based on the definition given by the Applicant in Paragraph 17, weight value is dependent on the type of node and the MAC node has the least weight and the SNMP node has the most weight. Kracht in Table 1 teaches a similar weight comparison. See also Column 8, Lines 20-49.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Zager's method to incorporate a method for weighting nodes. The motivation being that Kracht mentions in Column 8, Line 37 that in certain circumstances devices may be capable of multiple service like a router providing both layer 2 and 3 services and ending up being a switch and assigning weights to the nodes will make them more descriptive.

19. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over Zager in view of Kracht as applied to claim 7 above, and further in view of Wood (US 6, 108, 702).

The combination of Zager and Kracht teaches all aspect of the invention as set forth in the rejection of claim 7 but does not disclose a node detecting method, wherein in a case where a VLAN group is set to the port of the interconnecting node, the third receiving step includes receiving, from the interconnecting node, VLAN identifying information for identifying the VLAN group and the node identifying information for identifying the node that belongs to the VLAN group, and the third storing step includes storing the node identifying information of the node that belongs to the VLAN group in

the second memory to correspond to the VLAN identifying information received in the third receiving step.

Wood discloses a method and apparatus for determining accurate topology features of a network including VLAN/backplane information, router ARP table information, and device interface information.

Wood discloses disclose a node detecting method, wherein in a case where a VLAN group is set to the port of the interconnecting node, the third receiving step includes receiving, from the interconnecting node, VLAN identifying information for identifying the VLAN group and the node identifying information for identifying the node that belongs to the VLAN group, and the third storing step includes storing the node identifying information of the node that belongs to the VLAN group in the second memory to correspond to the VLAN identifying information received in the third receiving step. **(Wood shows how VLAN group information can be retrieved using SNMP queries from interconnecting devices like switches in Column 12, Lines 62-67 and Column 13, Lines 1-14)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Zager's and Kracht's method to incorporate a method for retrieving VLAN group info using SNMP queries. The motivation being that Zager mentions in Column 26, Line 43 that there is a need to determine address resolution to the level of LAN access port and given LANs can be part of VLANs Wood shows us how to determine VLA N group using SNMP queries.

Conclusion

20 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following US Patents are cited to show the state of the art with respect to high-speed data transmission in a digital mobile communication system using multi-slot mobiles:

US Patent (6, 061, 334) to Berlovitch et al

US Patent (5, 796, 736) to Suzuki et al

US Patent (6, 516, 345) to Kracht

US Patent (5, 706, 440) to Compliment et al

US Patent (6, 532, 217) to Alkhatib et al

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Habte Mered whose telephone number is 571 272 6046. The examiner can normally be reached on Monday to Friday 9:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571 272 3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HM
09-02-2005

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